

# **Report of Diagnostic System**

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# **1. Introduction**

## **1.1. Overview**

This system aims to diagnose the patient based on the symptoms and the vital statistics.

It takes in a set of responses from the user regarding recent events, environmental factors and medical history. On listing the likelihood of diseases, the user can choose which disease to screen for. During the screening test, it determines whether or not a person has a given psychological disorder based on his symptoms and how he feels. It stores all these results for further use during subsequent diagnosis.

## **1.2. Motivation**

A doctor is a very important part of society. Whenever we suffer from any ailment, we consult our general practitioner who considers our symptoms and suggests appropriate medication in case of minor infections and suggests the corresponding tests or specialists for consultation in case it proves to be a major disease. Thus, the advice of a doctor proves to be beneficial and helps to save many lives everyday all over the world.

However, for those in remote locations or are unable to get access to a medical facility immediately or just want to have an idea about what their condition is on the fly, meeting a doctor may not be possible. It is difficult to immediately and accurately diagnose these patients.

Having a system which can quickly and accurately diagnose a disease or affliction proves to be beneficial in these situations in many ways. First, it cuts down on the time taken to travel to a practice and time wasted in waiting in a queue. Second, it provides a way to identify what the patient is suffering from in case a doctor is not available at that time.

## 1.3. Objectives

The objective of this system is Patient Diagnosis, with a view to:

- Quickly and accurately diagnose a psychological disease or affliction based on the symptoms i.e. the information the patient provides.
- Act as an efficient alternative, by cutting down on time spent in hospital queues and medical facilities.
- Design a confidential and more efficient record system in the methods of patient diagnosis and record management.
- Provide easy referencing into the patient's past medical record system history as may be relevant in the diagnosis of his/her present situation.
- Back-ups of all previous diagnosis based on entered symptoms and information can be easily generated for future reference.

## 1.4. Existing Systems

Currently there are many websites such as psychcentral, mayoclinic, webmd, etc. which have screening tests for various psychological disorders. However, you've to take the tests for all disorders to figure out if you have a disease or not. So basically, you've to assume that you have a problem, say ADHD; take the ADHD tests and then see if you indeed have ADHD or not. There is a vast set of disorders that one has to test from to determine the disorder that he suffers from, if any.

This proposed system, specifically addresses the above said.

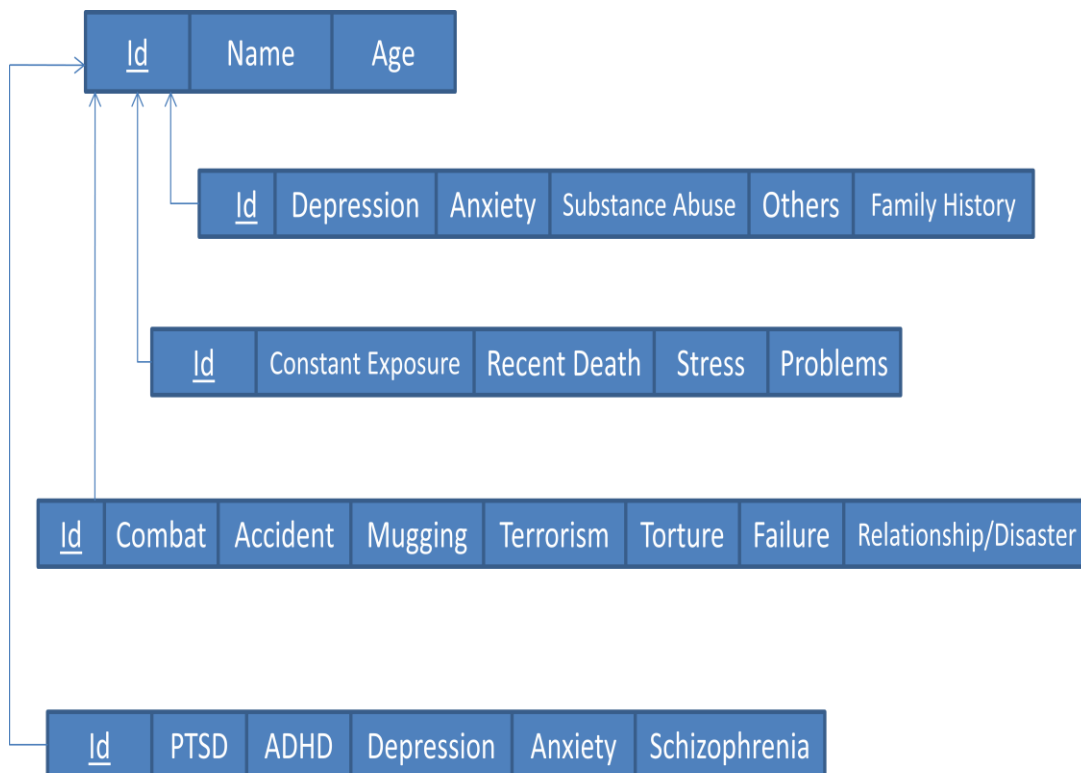
## 1.5. Proposed Systems

The system that is proposed here aims to reduce the number of diseases that a patient is tested for, and to also produce an accurate prognosis. It considers many factors to determine which disease is most likely. These are recent events, medical history and common environment of the patient. Using this, it determines the most likely diseases and only screens for those diseases.

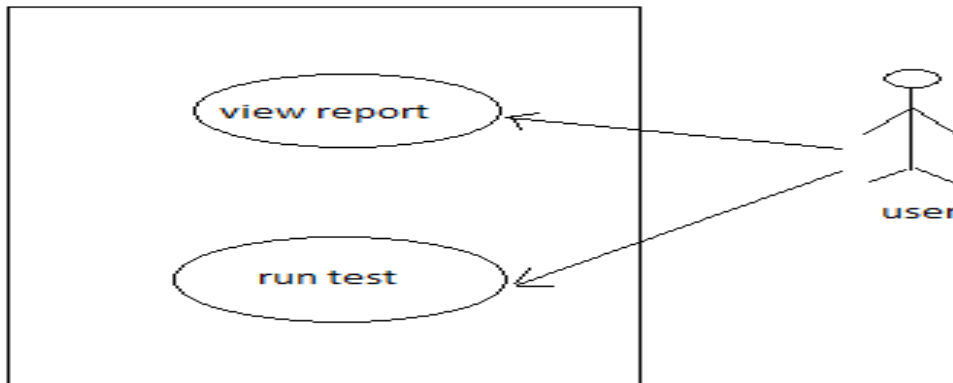
## 2. Design

### 2.1 Database Schema

Database Architecture:-



## 2.2. Use Case Diagram



Use case diagram for the system

## 2.3. Sequence diagram

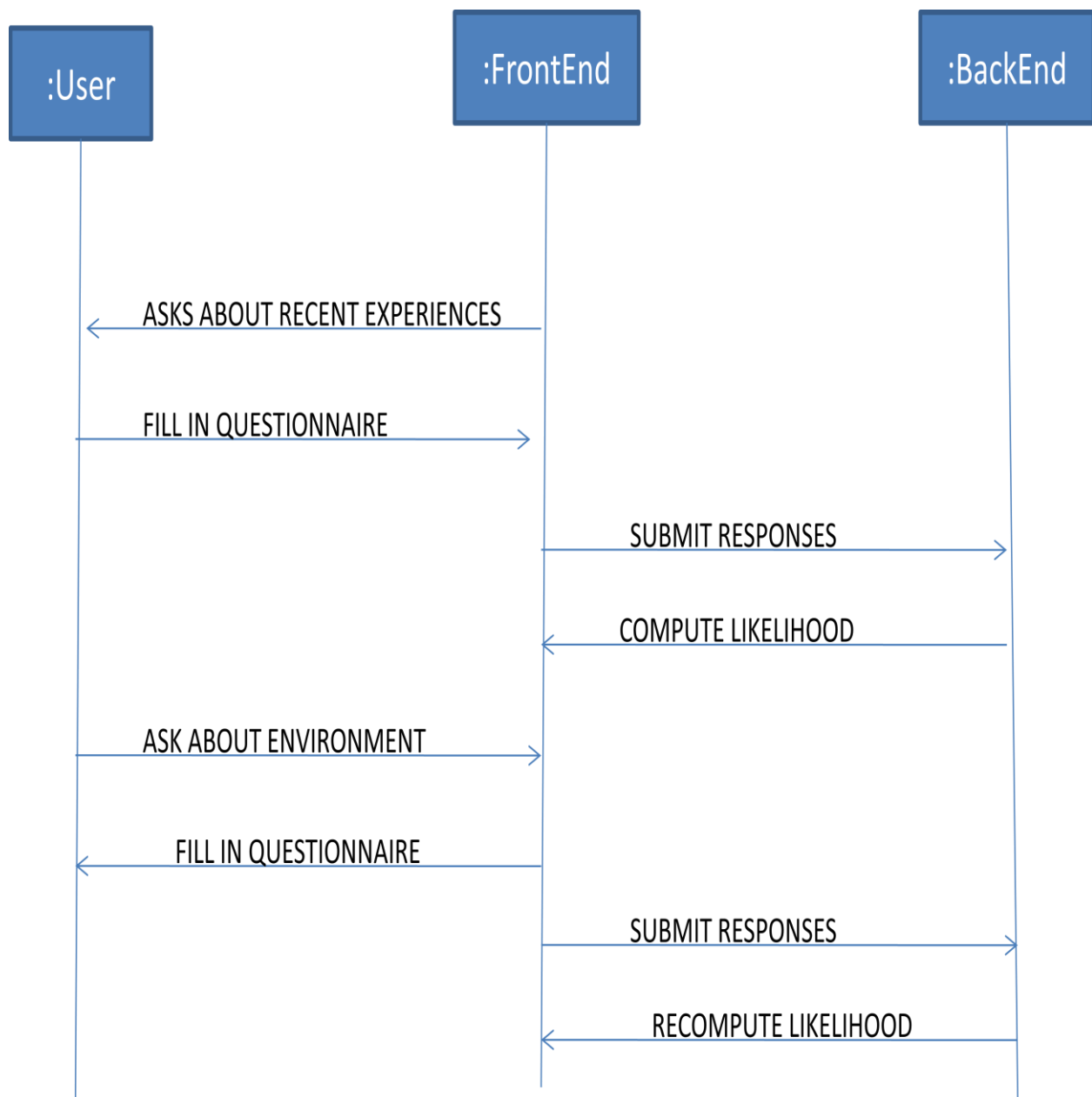
We take a look at the Sequence Diagram of the Working of this system:

### Actors →

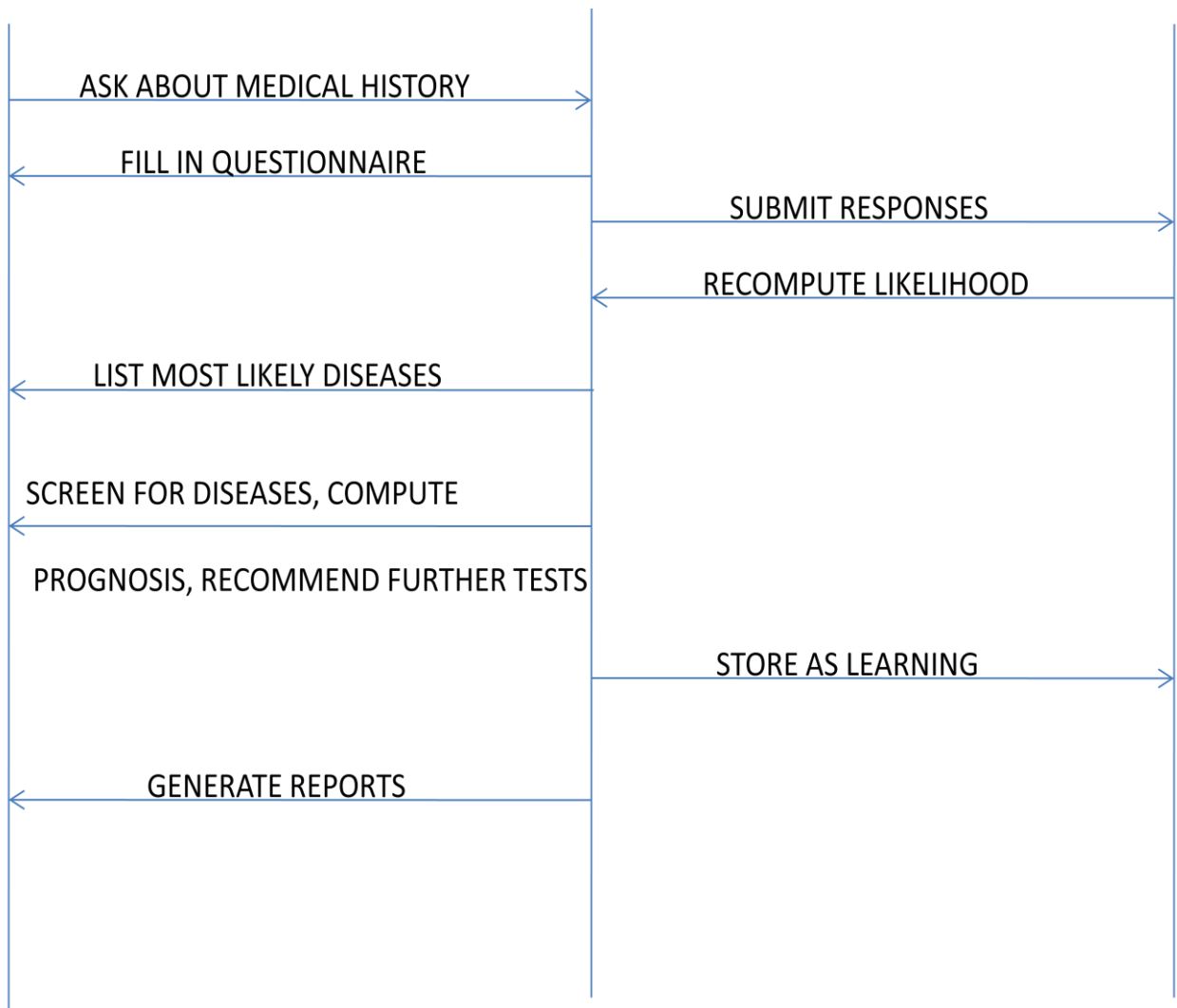
- 1)User
- 2)Front End
- 3)Back End

### Transactions →

(represented by directed arrows)



sequence diagram indicating the flow of activities



sequence diagram indicating the flow of activities



## **3. Implementation**

### **3.1. Overview of Technologies used:**

- Java
- Linux
- SQLite

## **4. Conclusion and Future Enhancements**

### **4.1. Conclusion**

This is a system that efficiently and accurately diagnoses diseases based on symptoms obtained from the user. This helps in reducing the time spent in the waiting queue at a practice or hospital, and is also useful for those places where a doctor is not immediately available. The system also aims to provide an efficient and confidential method of handling patient records along with storing their details for future reference.

### **4.2. Future Enhancements**

- Moving it to the cloud to enable ease of access.
- Expanding to include diagnosis of diseases like heart problems, diabetes, cancer etc.,
- Recommend specialist for a disease.

## Appendix A- Screenshots

SSN:XYZ080  
Name:Kapil  
Age:45  
Recent Experiences:  
Failure at work/exam  
Relationship failure  
Patient's environment:  
Stressful work/conditions  
Patient's medical history:  
Substance Abuse  
Family history of PTSD/Depression  
Based on above, tests were done for:  
Anxiety  
Depression  
Results of tests  
Anxiety is likely  
Depression is likely  
|

Click to return to Start

Back

## Depression

Answer according to how regularly you have been experiencing these symptoms over the last few ...

- |                           |                                  |   |   |   |  |   |
|---------------------------|----------------------------------|---|---|---|--|---|
| Hopelessness              | <input type="radio"/> Not at all | <input type="radio"/> Little bit            | <input type="radio"/> Somewhat            | <input checked="" type="radio"/> Moderately | <input type="radio"/> Quite a lot            | <input type="radio"/> Always            |
| Difficulty Concentrating  | <input type="radio"/> Not at all | <input type="radio"/> Little bit            | <input type="radio"/> Somewhat            | <input checked="" type="radio"/> Moderately | <input type="radio"/> Quite a lot            | <input type="radio"/> Always            |
| No Interest               | <input type="radio"/> Not at all | <input type="radio"/> Little bit            | <input type="radio"/> Somewhat            | <input type="radio"/> Moderately            | <input checked="" type="radio"/> Quite a lot | <input type="radio"/> Always            |
| Sadness                   | <input type="radio"/> Not at all | <input type="radio"/> Little bit            | <input type="radio"/> Somewhat            | <input type="radio"/> Moderately            | <input checked="" type="radio"/> Quite a lot | <input type="radio"/> Always            |
| Feel like a failure       | <input type="radio"/> Not at all | <input type="radio"/> Little bit            | <input type="radio"/> Somewhat            | <input type="radio"/> Moderately            | <input type="radio"/> Quite a lot            | <input checked="" type="radio"/> Always |
| Feel more dead than alive | <input type="radio"/> Not at all | <input type="radio"/> Little bit            | <input checked="" type="radio"/> Somewhat | <input type="radio"/> Moderately            | <input type="radio"/> Quite a lot            | <input type="radio"/> Always            |
| Thoughts about death      | <input type="radio"/> Not at all | <input checked="" type="radio"/> Little bit | <input type="radio"/> Somewhat            | <input type="radio"/> Moderately            | <input type="radio"/> Quite a lot            | <input type="radio"/> Always            |

Submit

## ANXIETY

Answer according to how regularly you have been experiencing these symptoms over the last few weeks

Nervous	<input type="radio"/> Not at all	<input checked="" type="radio"/> Several Days	<input type="radio"/> More than half the days	<input type="radio"/> Almost daily
Unable to stop worrying	<input type="radio"/> Not at all	<input type="radio"/> Several Days	<input checked="" type="radio"/> More than half the days	<input type="radio"/> Almost daily
Worrying about different thin...	<input type="radio"/> Not at all	<input type="radio"/> Several Days	<input checked="" type="radio"/> More than half the days	<input type="radio"/> Almost daily
Trouble relaxing	<input type="radio"/> Not at all	<input checked="" type="radio"/> Several Days	<input type="radio"/> More than half the days	<input type="radio"/> Almost daily
Restless	<input type="radio"/> Not at all	<input checked="" type="radio"/> Several Days	<input type="radio"/> More than half the days	<input type="radio"/> Almost daily
Irritable	<input type="radio"/> Not at all	<input type="radio"/> Several Days	<input checked="" type="radio"/> More than half the days	<input type="radio"/> Almost daily
Afraid of something awful	<input type="radio"/> Not at all	<input type="radio"/> Several Days	<input checked="" type="radio"/> More than half the days	<input type="radio"/> Almost daily

Submit

## Experiences

Answer according to whether or not you have experienced any of these events recently

- |                               |                                      |                                     |
|-------------------------------|--------------------------------------|-------------------------------------|
| Recent combat exposure?       | <input type="radio"/> Yes            | <input checked="" type="radio"/> No |
| Abuse?                        | <input type="radio"/> Yes            | <input checked="" type="radio"/> No |
| Recent Accident?              | <input type="radio"/> Yes            | <input checked="" type="radio"/> No |
| Mugging or Threatened?        | <input type="radio"/> Yes            | <input checked="" type="radio"/> No |
| Natural Disaster?             | <input type="radio"/> Yes            | <input checked="" type="radio"/> No |
| Recent Critical Diagnosis?    | <input type="radio"/> Yes            | <input checked="" type="radio"/> No |
| Kidnapping?                   | <input type="radio"/> Yes            | <input checked="" type="radio"/> No |
| Torture?                      | <input type="radio"/> Yes            | <input checked="" type="radio"/> No |
| Victim of a terrorist Attack? | <input type="radio"/> Yes            | <input checked="" type="radio"/> No |
| Failure at work or an exam?   | <input checked="" type="radio"/> Yes | <input type="radio"/> No            |
| Relationship Failure?         | <input checked="" type="radio"/> Yes | <input type="radio"/> No            |

Submit

Please enter your details

SSN	<input type="text" value="XYZ080"/>
Name	<input type="text" value="Kapil"/>
Age	<input type="text" value="45"/>

[Begin tests](#)

## Intelligent Diagnostic System



To run the set of test click here:

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